

General

Title

Surgical care improvement project: percent of surgical patients with urinary catheter removed on postoperative day 1 or postoperative day 2 with the day of surgery being day zero.

Source(s)

Specifications manual for national hospital inpatient quality measures, version 3.1a. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2010 Apr 1. various p.

Measure Domain

Primary Measure Domain

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percent of surgical patients with urinary catheter removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) with the day of surgery being day zero.

Rationale

It is well-established that the risk of catheter-associated urinary tract infection (UTI) increases with increasing duration of indwelling urinary catheterization. In 2000, Saint reported the results of a pooled analysis of 10 prospective trials dating from 1983 to 1995 which estimated that bacteriuria will develop in 26% of patients after 2 to 10 days of catheterization (95% CI 23-25%). Additional pooled analyses demonstrated that 24% (95% CI 16% to 32%) of those patients will develop symptomatic UTI and

bacteremia will develop in 3.6%. Among surgical patients, two studies of postoperative patients discharged to subacute care with urinary catheters were more likely to be readmitted to the hospital with a UTI compared with those who had catheters removed prior to hospital discharges (Wald, 2005 and Wald, 2008). Among selected major surgical patients in the Surgical Infection Project (SIP) cohort, Wald demonstrated (in press) that 85% had perioperative indwelling catheters placed and half of those patients had catheters for greater than 2 days postoperatively. These patients were twice as likely to develop UTIs prior to hospital discharge. On multivariate analysis, those who had indwelling bladder catheters for more than 2 days postoperatively were 21% more likely to develop UTI, significantly less likely to be discharged to home, and had a significant increase in mortality at 30 days. Additional analyses suggest that there is sizeable variation in the duration of postoperative catheterization among hospitals and that hospital factors may account for this variation. In 2006, Stephan reported the results of a multifaceted intervention study in orthopedic surgery patients in which protocols limiting the use and duration of postoperative catheterization played a large role. They reported a resultant 60% reduction in UTI incidence-density.

Primary Clinical Component

Surgical care infection prevention; urinary catheter

Denominator Description

All selected surgical patients with a catheter in place postoperatively (see the related "Denominator Inclusions/Exclusions" field and Appendix A, Table 5.10 for the list of selected surgeries)

Numerator Description

Number of surgical patients whose urinary catheter is removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) with day of surgery being day zero

Evidence Supporting the Measure

Evidence Supporting the Criterion of Quality

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

Need for the Measure

Use of this measure to improve performance

Evidence Supporting Need for the Measure

Saint S. Clinical and economic consequences of nosocomial catheter-related bacteriuria. Am J Infect Control. 2000 Feb;28(1):68-75. [PubMed](#)

Stephan F, Sax H, Wachsmuth M, Hoffmeyer P, Clergue F, Pittet D. Reduction of urinary tract infection and antibiotic use after surgery: a controlled, prospective, before-after intervention study. Clin Infect Dis. 2006 Jun 1;42(11):1544-51. [PubMed](#)

Wald H, Epstein A, Kramer A. Extended use of indwelling urinary catheters in postoperative hip fracture patients. Med Care. 2005 Oct;43(10):1009-17. [PubMed](#)

Wald HL, Epstein AM, Radcliff TA, Kramer AM. Extended use of urinary catheters in older surgical patients: a patient safety problem. Infect Control Hosp Epidemiol. 2008 Feb;29(2):116-24. [PubMed](#)

Wald HL, Ma A, Bratzler DW, Kramer AM. Indwelling urinary catheter use in the postoperative period: analysis of the national surgical infection prevention project data. Arch Surg. 2008 Jun;143(6):551-7. [PubMed](#)

State of Use of the Measure

State of Use

Current routine use

Current Use

Accreditation

Collaborative inter-organizational quality improvement

External oversight/Medicaid

External oversight/Medicare

Internal quality improvement

National reporting

Pay-for-performance

Application of Measure in its Current Use

Care Setting

Hospitals

Professionals Responsible for Health Care

Measure is not provider specific

Lowest Level of Health Care Delivery Addressed

Single Health Care Delivery Organizations

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

Stratification by Vulnerable Populations

Unspecified

Characteristics of the Primary Clinical Component

Incidence/Prevalence

See the "Rationale" field.

Association with Vulnerable Populations

Unspecified

Burden of Illness

See the "Rationale" field.

Utilization

Studies of postoperative patients discharged to subacute care with urinary catheters were more likely to be readmitted to the hospital with a urinary tract infection (UTI) compared with those who had catheters removed prior to hospital discharges.

See also the "Rationale" field.

Evidence for Utilization

Wald H, Epstein A, Kramer A. Extended use of indwelling urinary catheters in postoperative hip fracture patients. Med Care. 2005 Oct;43(10):1009-17. [PubMed](#)

Wald HL, Epstein AM, Radcliff TA, Kramer AM. Extended use of urinary catheters in older surgical patients: a patient safety problem. Infect Control Hosp Epidemiol. 2008 Feb;29(2):116-24. [PubMed](#)

Costs

Unspecified

Institute of Medicine (IOM) Healthcare Quality Report

Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Timeliness

Data Collection for the Measure

Case Finding

Users of care only

Description of Case Finding

All selected surgical patients with a urinary catheter in place postoperatively

Denominator Sampling Frame

Patients associated with provider

Denominator Inclusions/Exclusions

Inclusions

All selected surgical patients with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Procedure Code of selected surgeries as defined in the appendices of the original measure documentation with a catheter in place postoperatively

Exclusions

- Patients less than 18 years of age

- Patients who have a Length of Stay (LOS) greater than 120 days

- Patients who had a principal diagnosis suggestive of preoperative infectious diseases (refer to Appendix A, Table 5.09 of the original measure documentation for ICD-9-CM codes)

- Patients whose ICD-9-CM principal procedure was performed entirely by *Laparoscope*

- Patients enrolled in clinical trials

- Patients who had a urological, gynecological or perineal procedure performed (refer to Appendix A, Table 5.16 of the original measure documentation for ICD-9-CM codes)

- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission

- Patients who had other procedures requiring general or spinal anesthesia that occurred within 3 days (4 days for coronary artery bypass graft [CABG] or Other Cardiac Surgery) prior to or after the procedure of interest (during separate surgical episodes) during this hospital stay

- Patients with physician/advanced practice nurse/physician assistant (physician/APN/PA) documented infection prior to surgical procedure of interest

- Patients who expired perioperatively

Patients whose length of stay was less than two days postoperatively
Patients who had a suprapubic catheter or had intermittent catheterization preoperatively
Patients who did not have a catheter in place postoperatively
Patients who had physician/APN/PA documentation of a reason for not removing the urinary catheter postoperatively

Relationship of Denominator to Numerator

All cases in the denominator are equally eligible to appear in the numerator

Denominator (Index) Event

Institutionalization

Therapeutic Intervention

Denominator Time Window

Time window brackets index event

Numerator Inclusions/Exclusions

Inclusions

Number of surgical patients whose urinary catheter is removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) with day of surgery being day zero

Exclusions

None

Measure Results Under Control of Health Care Professionals, Organizations and/or Policymakers

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

Numerator Time Window

Fixed time period

Data Source

Administrative data

Medical record

Level of Determination of Quality

Individual Case

Pre-existing Instrument Used

Unspecified

Computation of the Measure

Scoring

Rate

Interpretation of Score

Better quality is associated with a higher score

Allowance for Patient Factors

Unspecified

Standard of Comparison

External comparison at a point in time

External comparison of time trends

Internal time comparison

Evaluation of Measure Properties

Extent of Measure Testing

This measure is currently in use in the Reporting Hospital Quality Data Annual Payment Update (RHQDAPU) program with data submitted by approximately 3500 hospitals.

This measure is reviewed bi-annually and revised as needed to ensure reliable specifications. An independent abstracting contractor is utilized by the RHQDAPU program to monitor validity of the measure specifications. Feedback from this contractor is incorporated into the proposed changes for each manual update.

Evidence for Reliability/Validity Testing

Reporting hospital quality data for annual payment update (RHQDAPU). [internet]. Baltimore (MD): Centers for Medicare & Medicaid Services; [accessed 2010 May 10]. [1 p].

Identifying Information

Original Title

SCIP-Inf-9: urinary catheter removed on postoperative day 1 (POD 1) or postoperative day 2 (POD 2) with day of surgery being day zero.

Measure Collection Name

National Hospital Inpatient Quality Measures

Measure Set Name

Surgical Care Improvement Project (SCIP)

Submitter

Centers for Medicare & Medicaid Services - Federal Government Agency [U.S.]

The Joint Commission - Health Care Accreditation Organization

Developer

Centers for Medicare & Medicaid Services/The Joint Commission - None

Funding Source(s)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.

Centers for Medicare & Medicaid Services (CMS) funding is from the United States Government.

Composition of the Group that Developed the Measure

The Centers for Medicare & Medicaid Services assembled and maintained the Technical Expert Panel for development of the Surgical Infection Prevention Project (SIP) measures in 2002. The SIP set subsequently transitioned to the Surgical Care Improvement Project (SCIP) effective July 1, 2006. The panel has been maintained by the Centers for Medicare & Medicaid Services since the inception of the project.

SCIP Partners include the Steering Committee of 10 national organizations who have pledged their commitment and full support for SCIP:

- Agency for Healthcare Research and Quality
- American College of Surgeons
- American Hospital Association
- American Society of Anesthesiologists
- Association of Perioperative Registered Nurses
- Centers for Disease Control and Prevention
- Centers for Medicare & Medicaid Services
- Institute for Healthcare Improvement
- The Joint Commission
- Veterans Health Administration

Financial Disclosures/Other Potential Conflicts of Interest

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Conflict of Interest policies, copies of which are available upon written request to The Joint Commission and the Centers for Medicare & Medicaid Services.

Endorser

National Quality Forum - None

Included in

Hospital Compare

Hospital Quality Alliance

Adaptation

Measure was not adapted from another source.

Release Date

2009 Oct

Revision Date

2010 Apr

Measure Status

This is the current release of the measure.

This measure updates a previous version: Specifications manual for national hospital inpatient quality measures, version 3.0c. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct 1. various p.

Source(s)

Specifications manual for national hospital inpatient quality measures, version 3.1a. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2010 Apr 1. various p.

Measure Availability

The individual measure, "SCIP-Inf-9: Urinary Catheter Removed on Postoperative Day 1 (POD 1) or Postoperative Day 2 (POD 2) with Day of Surgery Being Day Zero," is published in "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available from [The Joint Commission Web site](#) . Information is also available from the [QualityNet Web site](#) . Check The Joint Commission Web site and QualityNet Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

Companion Documents

The following are available:

A software application designed for the collection and analysis of quality improvement data, the CMS Abstraction and Reporting Tool (CART), is available from the [CMS CART Web site](#)

. Supporting documentation is also available. For more information, e-mail CMS PROINQUIRIES at proinquiries@cms.hhs.gov.

The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p. This document is available in Portable Document Format (PDF) from [The Joint Commission Web site](#)

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The Joint Commission. Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): The Joint Commission; 5 p. This document is available in PDF from [The Joint Commission Web site](#) .

NQMC Status

The Joint Commission submitted this NQMC measure summary to ECRI Institute on July 31, 2009. This NQMC summary was reviewed accordingly by ECRI Institute on December 2, 2009. The information was verified by the Centers for Medicare & Medicaid Services on February 18, 2010. The Joint Commission informed NQMC that this measure was updated on June 25, 2010 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on August 17, 2010. The information was verified by the Centers for Medicare & Medicaid Services on November 3, 2010.

Copyright Statement

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